Operating Instructions

Please preserve for future use !

Shoe Repair Machine
to Repair Standard Shoes and
Orthopedic Shoes
Typ Caravelle

HARDO-Maschinenbau GmbH
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EC CONFORMITY DECLARATION
in the Sense of the EC Guidelines for Machines 89/392/EEC, Appendix II A

We hereby declare that the below-mentioned machine, due to its design, construction type and execution, meets the relevant basic safety and health requirements of the EC Guidelines for Machines.

This declaration will become void, if the machine is modified without our prior consent.

CE

Designation of the Machine:	**HARDO**-Shoe Repair Machine to Repair Standard Shoes and Orthopedic Shoes Caravelle/Mini
Machine No.:	
Applied conforming standards:	EN 292-2 EN 418 EN 60204 CEN/TC 201/WG6
Applied national standards/ technical specifications:	DIN 45635 VBG 69 VBG 69 DA ZH 1/487

Bad Salzuflen, 01/09/94

(Wehmeyer, Production Manager)

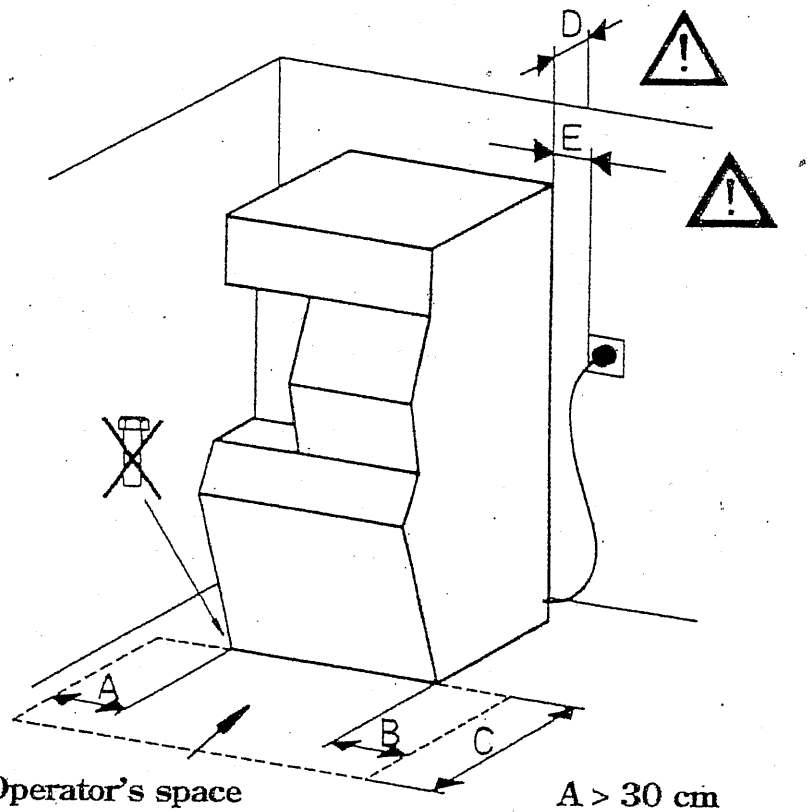
TRANSPORT

When the machine is supplied in a wooden crate or seaworthy case, transport can be carried out by fork lift truck or industrial truck. **Please note the hints on the packing !**

ASSEMBLY

Make sure that the machine is assembled in such a way that possibly emanating dust does not cause annoyance or danger.

The machine is to be installed on a firm base. To avoid accompanying noise, uneven floor sections are to be compensated by placing pieces of felt or rubber below the machine.



Operator's space

A > 30 cm
B > 30 cm
C > 80 cm
D > 10 cm (air outlet)
E > 5 cm

Noise Emission

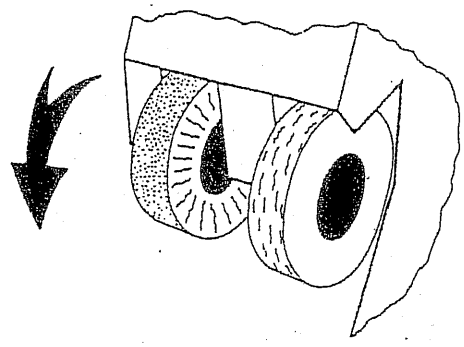
The 'A'-classified noise emission value of the machine based on the working place is 78dB(A). The measurement has been made according to DIN 45635.

COMMISSIONING

The following work is to be carried out only by a qualified electrician:

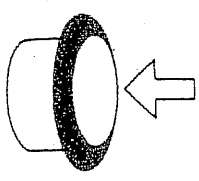
Check the voltage before connecting the plug (take typeplates into account).

Make sure that the sense of rotation of the machine is correct ! For this purpose
- connect machine to mains;
- tension abrasive belts;
- switch on machine;
- check sense of rotation:



If the sense of rotation is not correct, two phases in the plug are to be interchanged. **Do not interchange the mid-point conductor (neutral) or the protective conductor !**

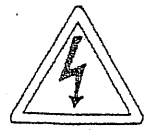
Emergency-Stop-Button



This button is to be unlocked prior to commissioning the machine.
It has to be pressed immediately in case of threatening danger - in order to interrupt current supply.

Main Key

Switch current supply on/off:

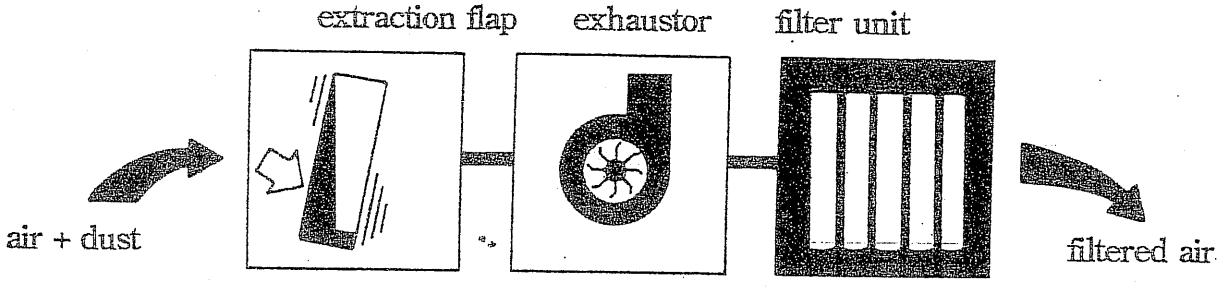


All the motors are equipped with thermal protective switches to cut the current automatically off in case of overload. Do not restart the motors before they have not cooled down.

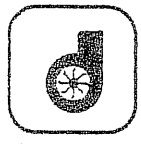
Due to high revolutions, a high temperature is normal for various bearings. All bearings are maintenance-free.

OPERATION AND MAINTENANCE

Dust Extraction and Filter Unit

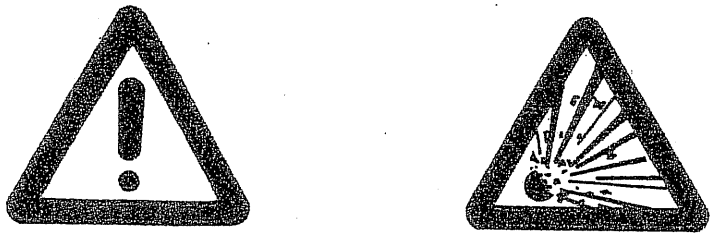


Switching on/off the exhaustor:



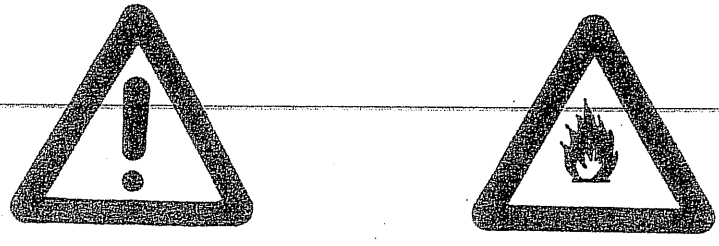
Open only one extraction flap to concentrate the suction performance.

Make sure to keep solvent-containing chemicals, in particular glue, impregnations, etc. away from the suction openings !

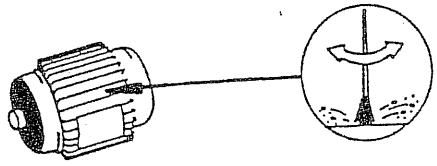


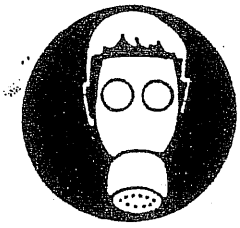
Do not throw coarse materials into the suction openings to avoid mechanical damage to the filters.

In the case of flying sparks (caused by sanding metal parts) you have to close extraction flap ! Switch off exhaustor !



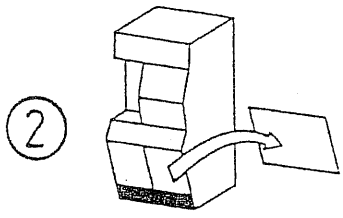
Cleaning of Machine

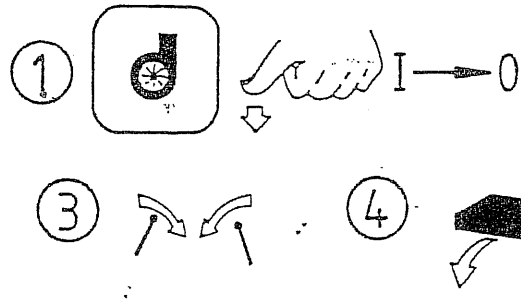


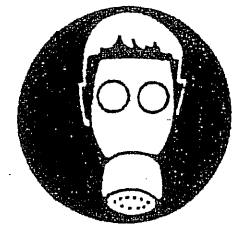


Cleaning of Fine Dust Box

At least once daily:







Assembly is to be made in reverse order. To prevent dust from coming out of the machine make sure that the dust box, after its insertion, is pressed upwards into the sealing, by turning the lifting levers.

Please observe the national regulations when disposing of the fine dust!

For safety reasons shoelaces are to be removed before repairing the shoes.

Wear safety glasses when sanding and trimming !

It is prohibited to dismount the protective covers and devices !

Measures to be taken in case of fire:

* Turn immediately emergency-stop switch.
* Remove plug from socket.
* Close dust extraction flaps.
* Then fight fire with fire extinguisher through suction opening.
* Make sure not to remove fine dust boxes before fire fighting.
* Prevent fresh air supply.

Filter Bag Cleaning

The filter is cleaned by operating the shaking device. **Clean the filter as often as possible.** For this purpose :

- **Switch off exhaustor-fan-motor !**
- Operate shaking device.

We recommend to replace the filter-bags every 3 to 5 years because they are getting more and more dust-tight in the long run due to chemical components in sanding materials.

Faults and their Possible Causes

Dust Formation

- Fine dust box improperly inserted (does not tighten).
- Filter-bag removed from the filter socket.
- Untight filter (hole by damaging).

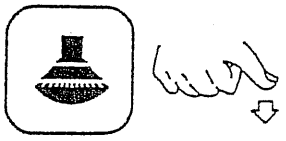
Faulty Suction Performance

- Dirty filter (operate shaking device repeatedly and more often).
- Fine dust box improperly inserted.

Naumkeag

The naumkeag is used to sand leather, rubber, wood, and plastic. **It is not suitable to sanding knives and scissors. Increased danger of fire by flying sparks !**

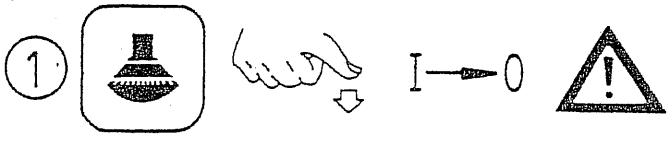
Switching on/off:

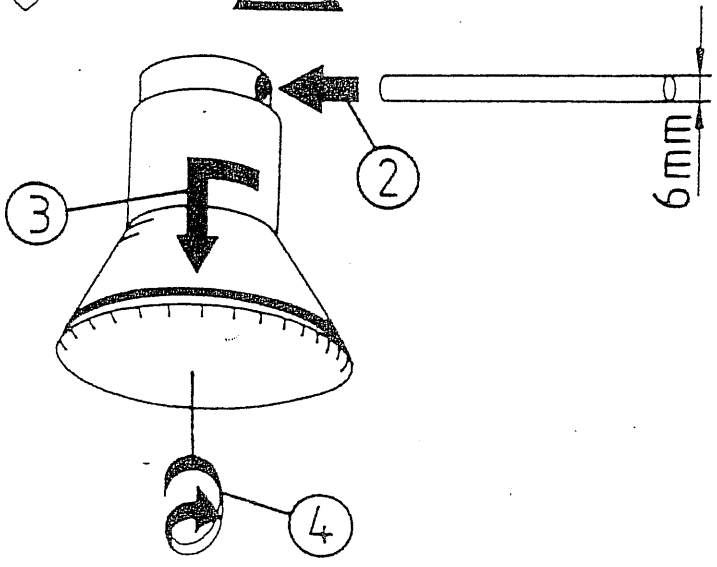


The running naumkeag is to be observed permanently!

The naumkeag together with its driving motor is height-adjustable.

Replacement of the naumkeag / naumkeag cushion:



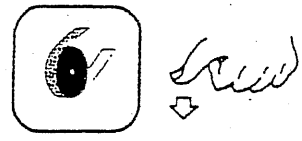


Mount naumkeag in reverse order.

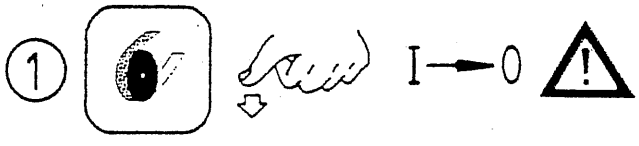
Heel Breaster

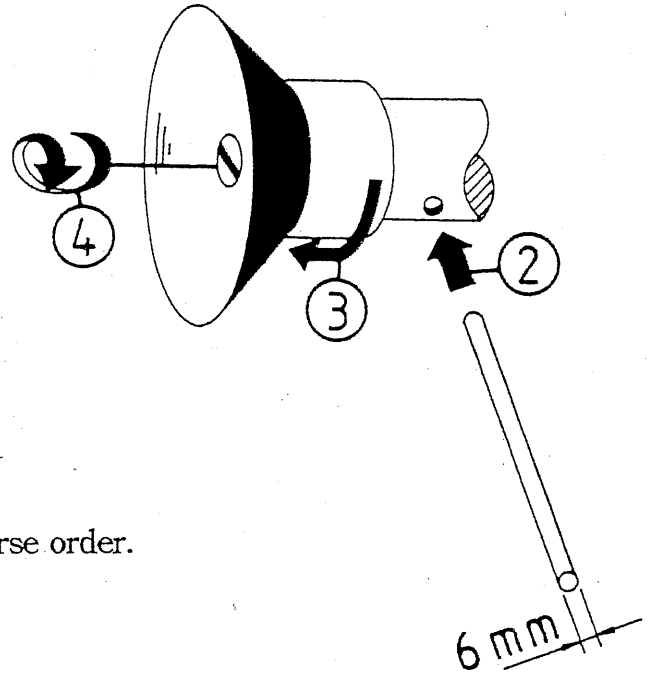
The heel-breaster is used for sanding heels made of leather, rubber, wood, and plastic. **It is not suitable to sanding knives and scissors. Increased danger of fire due to flying sparks !**

Switching on/off (together with the sanding belts):



Replacement of the heel-breaster:

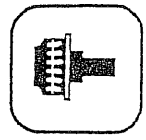




Mount heel-breaster in reverse order.

Twin Trimmers

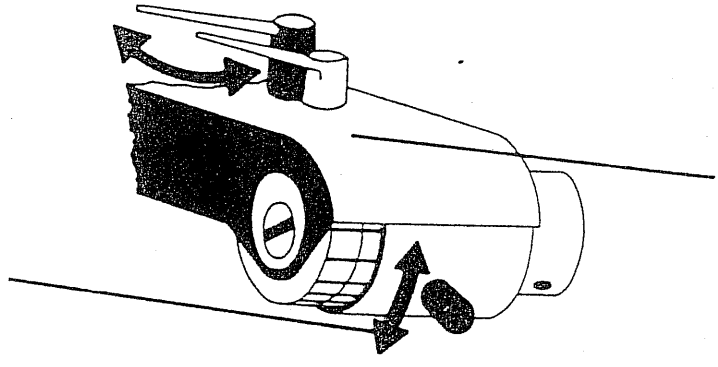
The twin trimmers are equipped with a heel and a sole trimmer. They are commonly driven.

Switching on/off of the twin trimmers: 

Heel Trimmer

The heel trimmer is used to cut heels made of leather, rubber and plastic. **It is not suitable to cutting foamed material and metal.**

guide cover

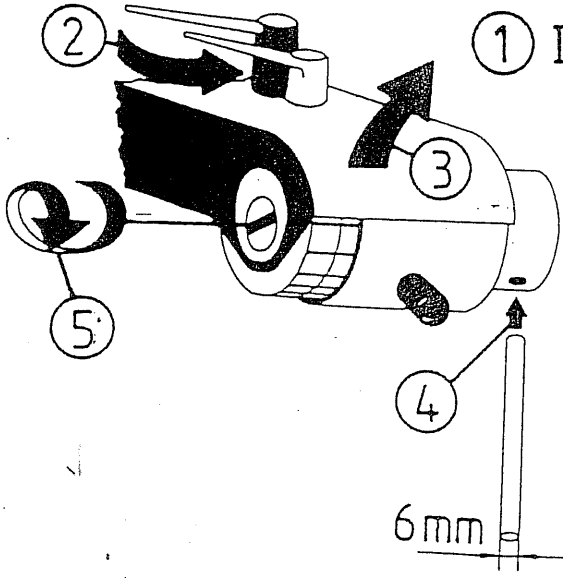


guide hood

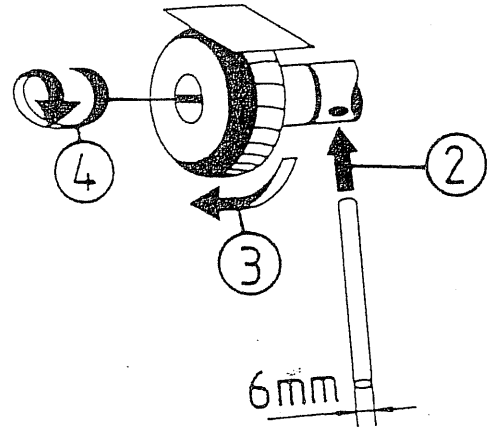
Sole Trimmer

The sole trimmer is used to cut soles made of leather, rubber and plastic. **It is not suitable to cutting foamed material and metal.**

Replacement of the heel trimmer:

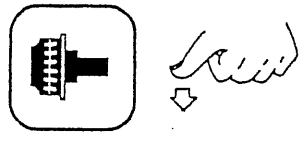


Replacement of the sole trimmer:

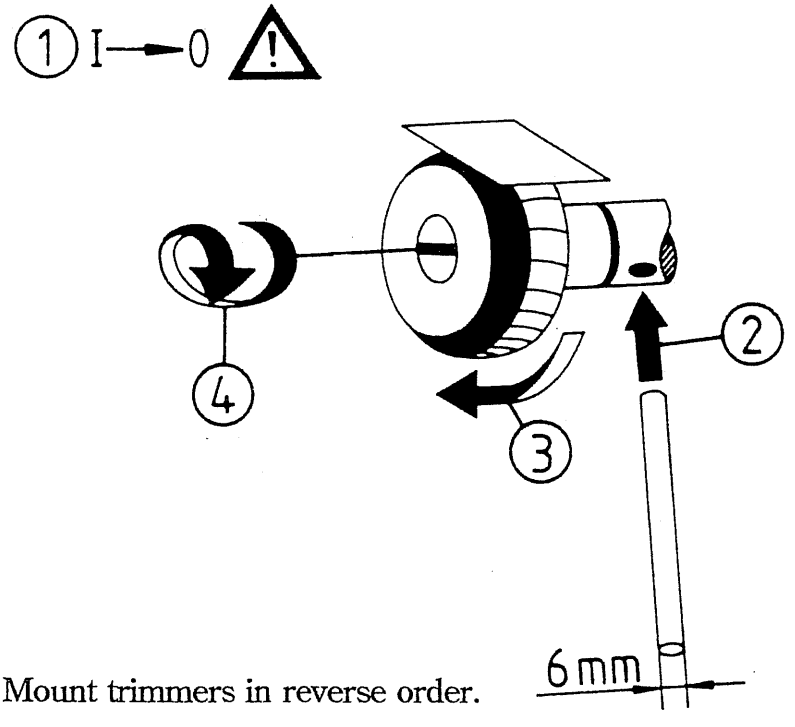


Sole Trimmers on Turret Trimmer

The sole trimmer is used to cut soles made from leather, rubber and plastic. **It is not suitable to cutting foamed material and metal.**

Switching on/off the sole trimmer: 

Replacement of the trimmer:

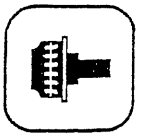


Mount trimmers in reverse order.

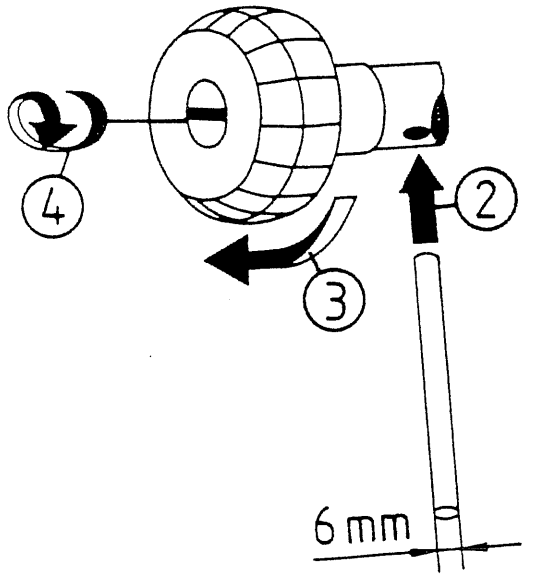
Last Trimmer

The last trimmer is suitable to cut plastic and wood lasts. **It is not suitable to cutting foamed material and metal.**

Switching on/off:



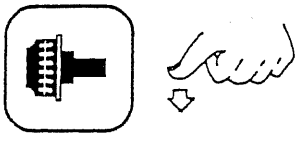
Replacement of the last trimmer:



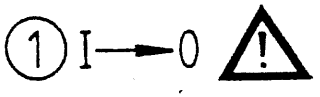
Assemble trimmer in reverse order.

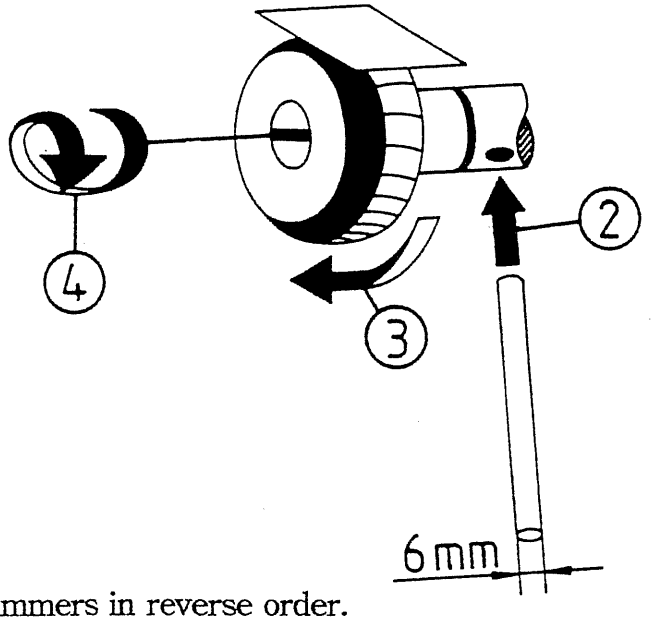
Sole Trimmer

The sole trimmer is used to cut soles made from leather, rubber and plastic. **It is not suitable to cutting foamed material and metal.**

Switching on/off the sole trimmer: 

Replacement of the trimmer:



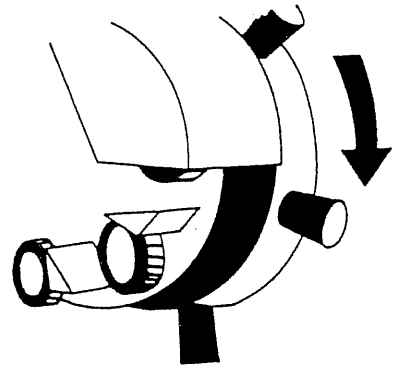


Mount trimmers in reverse order.

Turret Trimmers

The turret trimmers are equipped with a central heel-trimmer on bayonet, as well as with five stationary sole trimmers.

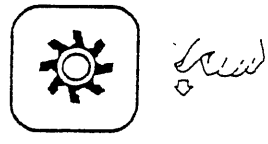
Switching over from one sole trimmer to the other:



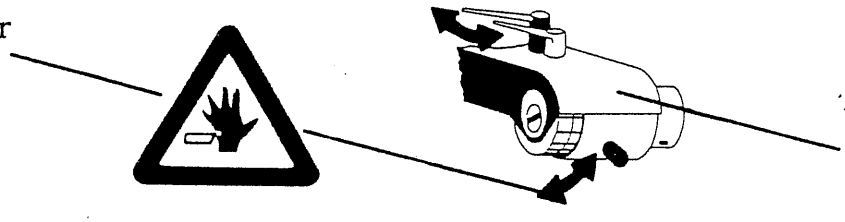
Heel Trimmer on Turret Trimmer

The heel trimmer is used to cut heels made from leather, rubber and plastic. **It is not suitable to cutting foamed material and metal.**

Switching on/off of the heel trimmer:

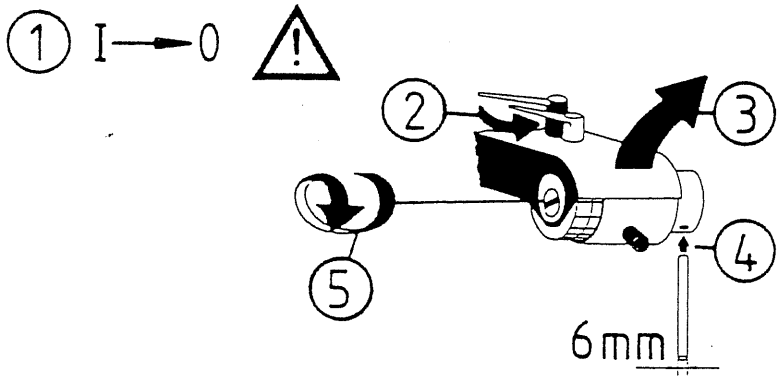


guide cover



guide hood

Replacement of the heel trimmer:



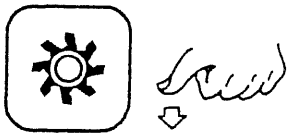
Mount trimmers in reverse order.

Top Piece Sanding Belt

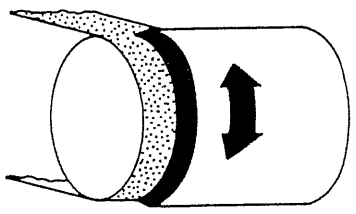
The top piece sanding belt is used to sand heel and sole contours. It is not suitable for leather, rubber, wood, plastic or metal top pieces.

If metal top pieces are applied make sure to close the dust extraction flaps and switch off the exhaustor-fan ! Danger of fire by flying sparks!

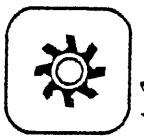
Switching on/off (together with heel trimmer):

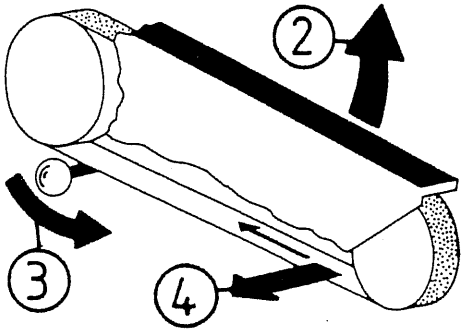


Adjusting trimming width:



The guide cover at the heel trimmer has to be fixed tightly.

Replacement of the top piece sanding belt: ①  I—0



⑤ Mount new belt in reverse order (apply right running-direction).

⑥ 0—I

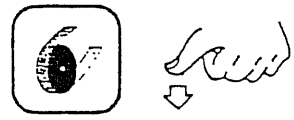
⑦ Set sanding belt drive (the belt must run in line with the contact-wheel).

Sanding with Pneumatic Belt Tensioning

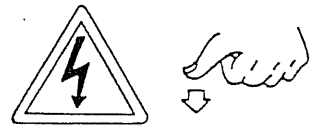
The sanding belts are used to sand shoe bases, soles, sole edges, heels, and lasts. They are suitable to processing leather, rubber, wood, and plastic. **They are not suitable to sanding knives and scissors. Increased danger of fire by flying sparks !**

The sanding belts are driven by the motor- and contact-wheel. Belt tensioning is provided pneumatically, whereby the pressure has been set to 5 bar standardly. If the pressure falls, it can be increased by turning the pressure regulator to the right (behind the inner door on the right). **For safety reasons the pressure should not be higher than 6 bar (danger of belt cracks).**

Switching on/off sanding belts:

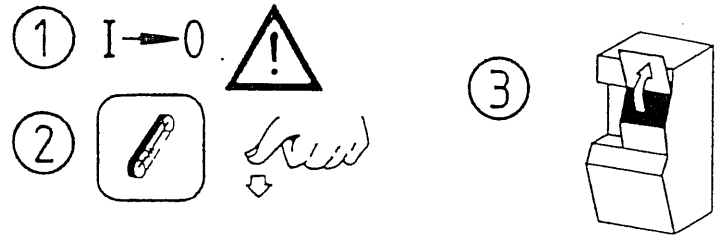


Tensioning/releasing sanding belts:



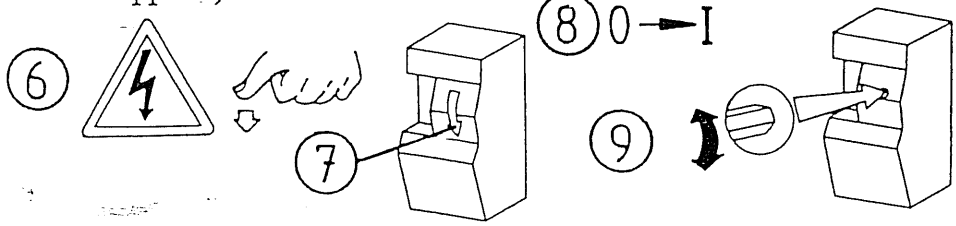
We recommend to release all sanding belts before any long period of not using the machine, e.g. after work or during the weekend, to prevent the contact- and motor-wheels from getting unbalanced.

Replacement of the sanding belts:



4. Remove belt first from motor-wheel and then from contact-wheel.

5. Mount new belt in reverse order (make sure the right running-direction is applied).



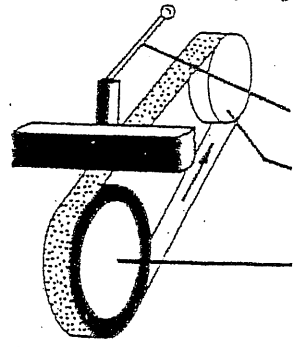
Set sanding belt drive (the belt must run in line with the contact-wheel).

In front of the motor-wheel there are brush-scrapers just above the sanding belts to avoid that the sanding will be kept onto the wheels Adjust the scrapers to this certain position to ensure that they are as close as possible to the sanding belt, but never will touch it. **For this adjustment the machine is to be switched off beforehand !**

Sanding Belts with Mechanical Tensioning

The sanding belts are used to sand shoe bases, soles, sole edges, heels, and lasts. They are suitable to processing leather, rubber, wood, and plastic. **They are not suitable to sanding knives and scissors. Increased danger of fire by flying sparks !**

Switching on/off sanding belts:



belt tensioning lever

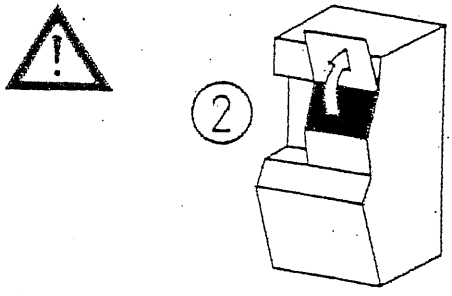
motor-wheel

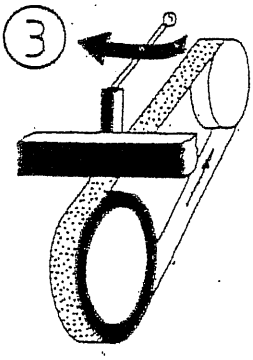
contact-wheel

We recommend to release all sanding belts before any long period of not using the machine, e.g. after work or during the weekend, to prevent the contact- and motor-wheels from getting unbalanced.

Replacement of the sanding belts:

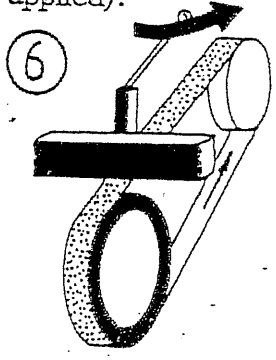
① I—0

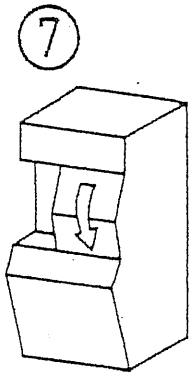




④ Remove belt first from motor-wheel and then from contact-wheel.

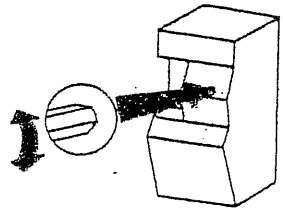
⑤ Mount new belt in reverse order (make sure the right running-direction is applied).





⑧ 0—I

⑨ Set sanding belt drive (the belt must run in line with the contact-wheel)..



In front of the motor-wheel there are brush-scrapers just above the sanding belts to avoid that the sanding will be kept onto the wheels Adjust the scrapers to this certain position to ensure that they are as close as possible to the sanding belt, but never will touch it. **For this adjustment the machine is to be switched off beforehand !**

HARDO-Maschinenbau GmbH • Postfach 320 • D-32065 Bad Salzuflen

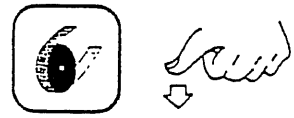
Operating Instructions Shoe Repair Machine Caravelle/Mini

Sanding Belts with Pneumatic Belt Tensioning by means of Main Key

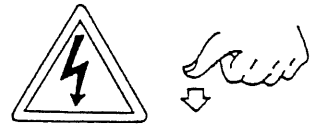
The sanding belts are used to sand shoe bases, soles, sole edges, heels, and lasts. They are suitable to processing leather, rubber, wood, and plastic. **They are not suitable to sanding knives and scissors. Increased danger of fire by flying sparks !**

The sanding belts are driven by the motor- and contact-wheel. Belt tensioning is provided pneumatically, whereby the pressure has been set to 5 bar standardly. If the pressure falls, it can be increased by turning the pressure regulator to the right (behind the inner door on the right). **For safety reasons the pressure should not be higher than 6 bar (danger of belt cracks).**

Switching on/off sanding belts:

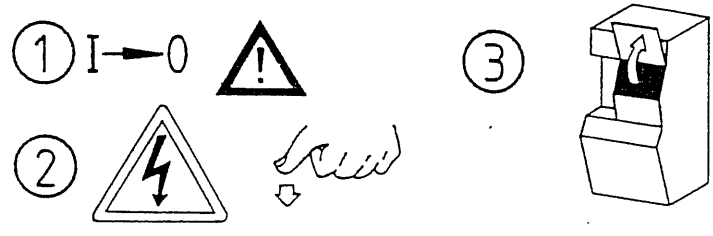


Tensioning/releasing sanding belts:



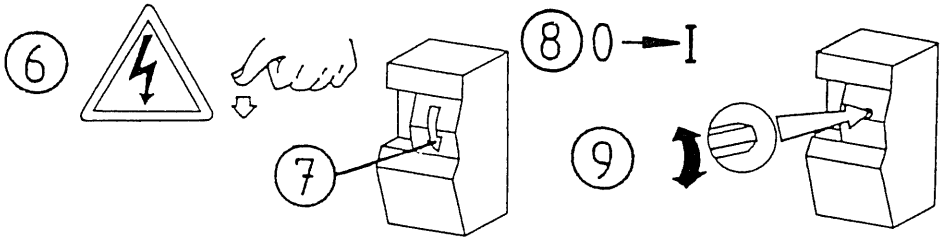
After approx. 30 seconds the grinding belts will be released automatically.

Replacement of the sanding belts:



4. Remove belt first from motor-wheel and then from contact-wheel.

5. Mount new belt in reverse order (the arrow on the inside of the belts indicates the only right direction of running).

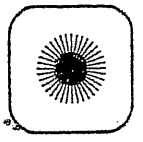


Set sanding belt drive (the belt must run in line with the contact-wheel).

In front of the motor-wheel there are brush-scrapers just above the sanding belts to avoid that the sanding will be kept onto the wheels Adjust the scrapers to this certain position to ensure that they are as close as possible to the sanding belt, but never will touch it. **For this adjustment the machine is to be switched off beforehand !**

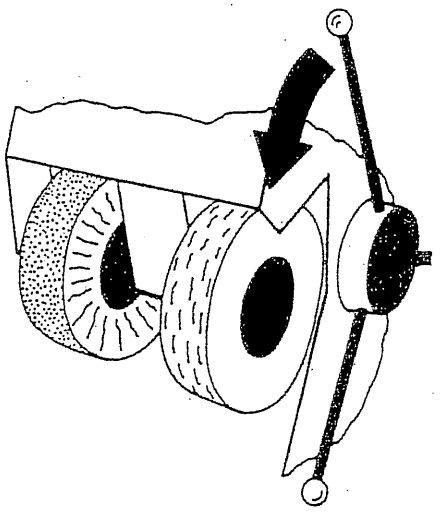
Polishing Unit with Mechanical Turning

The polishing unit is used to apply wax, to stain soles' and heels' contours and to polish the upper material. It is suitable to polishing leather, rubber and plastics.

Switching on/off polishing unit: 

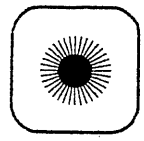
The polishing unit is equipped with different polishing tools, such as brushes, cloth- and leather-wheels.

Turning from one shaft to another (different colours):

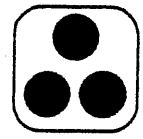


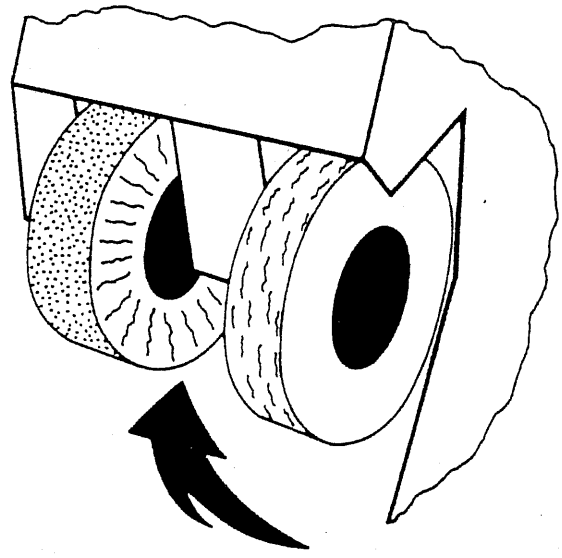
Polishing Unit with Automatical Turning

The polishing unit is used to apply wax, to stain soles' and heels' contours and to polish the upper material. It is suitable to polishing leather, rubber and plastics.

Switching on/off polishing unit: 

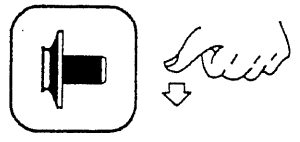
The polishing unit is equipped with different polishing tools, such as brushes, cloth- and leather-wheels.

Turning from one shaft to another (different colours): 

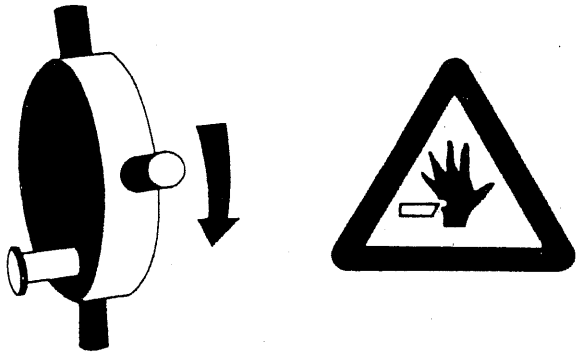


Turret Edge-Colouring Unit

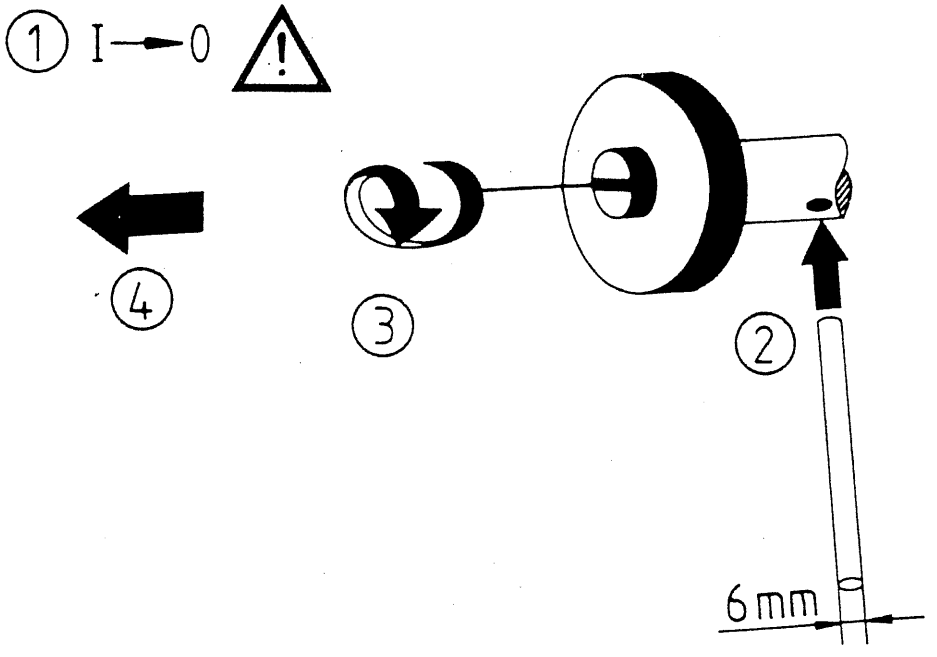
The turret edge-colouring unit is used to apply colouring-wax to the edge of soles and heels. It is suitable for processing leather, rubber and plastic.

Switching on/off edge-colouring unit: 

The turret edge-colouring unit is equipped with several stationary edge iron wheels.
Switching over:



Replacement of edge iron wheel:

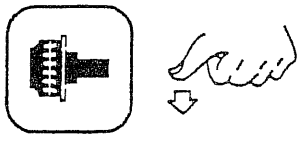


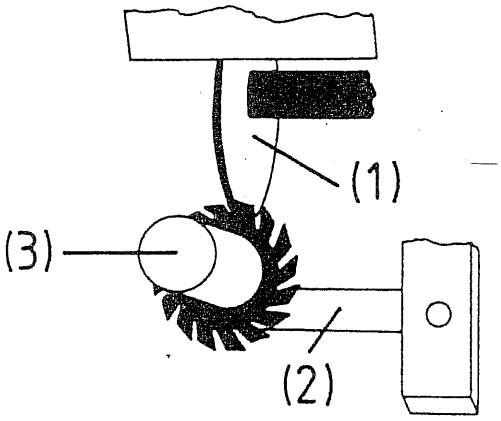
Mount edge iron wheels in reverse order.

Trimmer Sharpening Device (Single and Twin Cutter)

The trimmer sharpening device is exclusively used to resharpen the cutting edges of the heel trimmer. **It is not suitable to resharpen hard metal (carbide-) and sole trimmers !**

Switching on/off trimmer sharpening device:





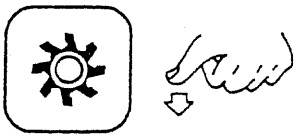
Please follow the following working-steps-order when resharpen trimmers:

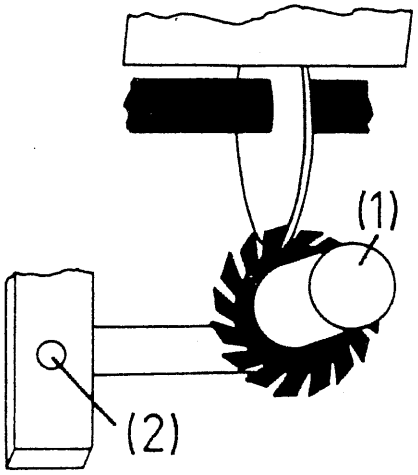
- **The machine must be switched off !**
- Remove sole trimmer compltete with bayonet fitting from shaft.
- Mount trimmer sharpening stone (1) with bayonet fitting onto shaft.
- Insert trimmer holder(2) into the position beneath sole trimmer.
- Place trimmer on guide-rod (3).
- Position the trimmer holder in such a way as to ensure that the cutting edge is placed vertical to the sharpening stone and fasten with locking screw.
- Switch on trimmer-motor.
- Press trimmer between the teeth towards the left and slightly against the sharpening stone and sharpen by moving back and forth.
- For turning to the next tooth pull cutter on the guide-rod off the sharpening position and turn to the right up to the next tooth.
- Repeat sharpening operation in same order till all edges are resharpened.
- Switch off motor when sharpening has been finished and dismount trimmer sharpening device.

Trimmer Sharpening Device (Turret Cutter)

The trimmer sharpening device is exclusively used to resharpen the cutting edges of the heel trimmer. **It is not suitable to resharpen hard metal (carbide-) and sole trimmers !**

The trimmer sharpening device is installed behind the front cover and is driven by the trimmer-motor.

Switching on/off trimmer sharpening device: 



Please follow the following working-steps-order when resharpen trimmers:

- **The machine must be switched off !**
- Open front cover.
- Place trimmer on guide-rod (1).
- Position the trimmer holder by loosening the hexagon socket screw (2) in such a way as to ensure that the cutting edge is placed vertical to the sharpening stone.
- Switch on trimmer-motor.
- Press trimmer between the teeth towards the right and slightly against the sharpening stone and sharpen by moving back and forth.
- For turning to the next tooth pull cutter on the guide-rod off the sharpening position and turn to the right up to the next tooth.
- Repeat sharpening operation in same order till all edges are resharpened.
- Switch off motor when sharpening has been finished and dismount trimmer sharpening device.